

CLAIMS

1. Short change gear, in particular for motor vehicles, comprising
 - at least a first input shaft;
 - a first output shaft;
 - a second output shaft;
 - a drive shaft that is in torque transmitting connection with the first and second output shafts;
 - a first group of gear sets comprising at least one first gear set;
 - a second group of gear sets comprising at least one second gear set;
 - an intermediate shaft;
 - a first gear section in which the input shaft is connectable with the first output shaft by means of the first group of gear sets;
 - a second gear section in which the intermediate shaft is connectable to the second output shaft by means of the second group of gear sets;
 - wherein the intermediate shaft is in gearing connection with the first input shaft.
2. The short change gear of claim 1 further comprising:
 - a first drive pinion provided on the first output shaft;
 - a second drive pinion provided on the second output shaft;
 - a plane in which the intermediate shaft is in gearing connection with the first input shaft;
 - wherein the first and second drive pinions are positioned in the same plane.
3. The short change gear of claim 1 wherein the second gear section comprises the second group of gear sets, at least one of these gear sets being positioned in front and at least one of these gear sets being positioned behind the gearing connection when viewed in direction of the intermediate shaft.
4. The short change gear of claim 1 wherein the number of second gear sets in the second gear section is at least as high as the number of first gear sets in the first gear section.

5. The short change gear of claim 1 further comprising:

a clutch adapted to connect the first input shaft with a motor shaft,
wherein the first input shaft is connectable to the first output shaft and is
connected by means of the gearing connection with the intermediate shaft.

6. The short change gear of claim 1 further comprising:

loose wheels being part of the first and second gear sets; and
mutual synchronizing mechanisms;
wherein the loose wheels of the gear sets in the gear sections are shifted by means
the mutual synchronizing mechanisms and the gear sets relate to consecutive forward
gears.

7. The short change gear of claim 1 wherein the first gear section comprises the gear sets
for the 5th and the 6th gear, while the second gear section comprises the gear sets for the
1st to the 4th gear.

8. The short change gear of claim 7 further comprising:

a reverse gear set in the first gear section, said reverse gear set comprising:
a fixed wheel;
a loose wheel;
an intermediate wheel; and
a shaft bearing the intermediate wheel.

9. The short change gear of claim 1 further comprising:

a clutch at one end of the first input shaft;
wherein the gearing connection is located on the first input shaft spaced apart
from that end of the first input shaft where the clutch is provided.

10. The short change gear of claim 1 further comprising:

a first clutch;

a second clutch;

a second input shaft;

wherein a motor shaft is connectable by means of the first clutch with the first input shaft that is connectable with the first output shaft; and

wherein the motor shaft is connectable by means of the second clutch with the second input shaft that is positioned in coaxial relation to the first input shaft, and said second input shaft is connected to the intermediate shaft by means of the gearing connection.

11. The short change gear of claim 10 wherein the first gear section does not comprise any gear sets for even-numbered forward gears and the second gear section does not comprise any gear sets for odd-numbered forward gears.

12. The short change gear of claim 10 wherein the first gear section does not comprise any gear sets for odd-numbered forward gears and the second gear section does not comprise any gear sets for even-numbered forward gears.

13. The short change gear of claim 10 wherein the first gear section comprises the gear sets for the 2nd, 4th and 6th gear, and the second gear section comprises the gear sets for the 1st, 3rd and 5th gear.

14. The short change gear of claim 10 further comprising

a fixed wheel;

a loose wheel;

an intermediate wheel rotatably borne on a shaft;

wherein the second gear section comprises a gear set for the reverse gear in which the fixed wheel is connected to the loose wheel by means of the intermediate wheel.

15. The short change gear of claim 1 further comprising:
a pump shaft connected to a motor shaft and provided coaxially and within the first input shaft that is designed as a hollow shaft.
16. The short change gear of claim 1 wherein the gearing connection between the intermediate shaft and the first input shaft comprises gears on both shafts and an intermediate gear.
17. The short change gear of claim 1 wherein the gearing connection between the intermediate shaft and the first input shaft comprises a chain drive.
18. Use of the change gear of claim 5 as a manual change gear for motor vehicles.
19. Use of the change gear of claim 5 as an automatic change gear for motor vehicles.
20. Use of the change gear of claim 5 as a power shift gear for motor vehicles.
21. Use of the change gear of claim 1 as a change gear installed in lengthwise orientation in a motor vehicle.
22. Use of the change gear of claim 1 as a change gear installed in transverse orientation in a motor vehicle.